

What is claimed is:

1. A sensor rail device (for seat position detection), comprising:

(a) an elongated upper rail body to partially and fixedly support a seat thereon;

(b) an elongated stationary lower rail body which slidably engages and supports said upper rail body such that said upper rail body can axially slide on said lower rail body;

(c) a position sensor device fixedly mounted on said upper rail body; and

(d) a contact plate member having a predetermined length, which is secured to said lower rail body at a location to be contacted by said position sensor device as the position sensor device moves along said lower rail body,

said position sensor device comprising:

(i) a pivotal contact lever device having a magnet member which generates a magnetic field, said contact lever device contacting said contact plate member within a predetermined range along said lower rail body, angularly displacing said magnetic field; and

(ii) a stationary magnetic field sensor device which detects angular displacement of said magnetic field, outputting seat positional data to be electronically processed into seat positional signals.

position sensor device
upper rail body
contact plate
lower rail body

magnet member
lever device

2. A sensor rail device for seat position detection, comprising:

(a) an elongated upper rail ³body to partially and fixedly support a seat thereon;

(b) an elongated stationary ²lower rail body which slidably engages and supports said upper rail body such that said upper rail body can axially slide on said lower rail body;

(c) a position ⁵sensor device fixedly mounted on said lower rail body; and ^{5c}

(d) a contact plate member having a predetermined length, which is secured to said upper rail body at a location to be contacted by said position sensor device as the contact plate member moves along said lower rail body, ^{not shown}

said position sensor device comprising:

(i) a pivotal contact lever device having a magnet member which generates a magnetic field, said contact lever device contacting said contact plate member within a predetermined range along said upper rail body, angularly displacing said magnetic field; and ^{not shown}

(ii) a stationary magnetic field sensor device which detects angular displacement of said magnetic field, outputting seat positional data to be electronically processed into seat positional signals.

3. A sensor rail device according to claim 1 or 2, wherein said contact lever device is biased by ^{5c}biasing means toward an angular position.

4. A sensor rail device according to claim 1 or 2, wherein said position sensor device is at least partially housed in a ^{5a} bracket member.

5. A sensor rail device according to claim 1 or 2, wherein said contact plate member comprises a plurality of pins. *not shown*

6. A sensor rail device according to claim 1 or 2, wherein said contact plate member is provided in a double-step configuration.

7. A sensor rail device according to claim 1 or 2, wherein said contact plate member is slanted.

8. A seat rail system comprising a sensor rail device according to any of claims 1 to 7 and a seat rail member which is provided in parallel with said sensor rail device, said sensor rail device and said seat rail member fixedly supporting said seat together. *multiple claims*